

### **What is claimed is:**

**[Claim 1]** A well treatment system for achieving a transient underbalance condition in a wellbore, the system comprising:

a housing forming a sealed surge chamber; and  
a surge charge disposed within the sealed surge chamber, wherein the surge charge is adapted upon activation to penetrate the housing and to not penetrate material exterior of the housing.

**[Claim 2]** The system of claim 1, wherein the pressure within the surge chamber is less than the pressure exterior of the housing.

**[Claim 3]** The system of claim 1, wherein the surge charge has a relatively large-radius explosive cavity.

**[Claim 4]** The system of claim 1, wherein the surge charge has a substantially infinite-radius explosive cavity.

**[Claim 5]** The system of claim 1, wherein the explosive cavity of the surge charge is lined with a low-density material.

**[Claim 6]** The system of claim 1, wherein the explosive cavity of the surge charge is unlined.

**[Claim 7]** The system of claim 1, wherein the housing has a thinned wall section positioned adjacent a explosive cavity of the surge charge.

**[Claim 8]** The system of claim 1, further including:

an explosive perforating charge adapted for penetrating a material exterior of the housing.

**[Claim 9]** The system of claim 8, wherein the perforating charge has an explosive cavity having a radius smaller than the radius of the explosive cavity of the surge charge.

**[Claim 10]** The system of claim 8, wherein the pressure within the surge chamber is less than the pressure exterior of the housing.

**[Claim 11]** The system of claim 8, wherein the pressure within the surge chamber is less than the pressure exterior of the housing.

**[Claim 12]** The system of claim 8, further including:

an applicator tool adapted to discharge a well treatment fluid.

**[Claim 13]** The system of claim 8, further including:

an applicator tool adapted to discharge a well treatment fluid.

**[Claim 14]** The system of claim 9, further including:

an applicator tool adapted to discharge a well treatment fluid.

**[Claim 15]** The system of claim 14, further including:

an applicator tool adapted to discharge a well treatment fluid.

**[Claim 16]** A well treatment system, the system comprising:

a housing forming a sealed surge chamber wherein the pressure within the surge chamber is less than the pressure exterior of the housing when the surge chamber is sealed;

a surge charge disposed within the sealed surge chamber, wherein the surge charge is adapted upon activation to penetrate the housing and to not penetrate material exterior of the housing;

a thin walled section formed in the housing adjacent an explosive cavity of the surge charge; and

an explosive perforating charge adapted for penetrating a material exterior of the housing.

**[Claim 17]** The system of claim 16, wherein the perforating charge has an explosive cavity having a radius smaller than the radius of the explosive cavity of the surge charge.

**[Claim 18]** The system of claim 16, wherein the explosive cavity of the surge charge is lined.

**[Claim 19]** The system of claim 16, wherein the explosive cavity of the surge charge is unlined.

**[Claim 20]** The system of claim 17, wherein the explosive cavity of the surge charge is unlined.

**[Claim 21]** The system of claim 16, further including:

an applicator tool adapted to discharge a well treatment fluid.

[Claim 22] The system of claim 17, further including:

an applicator tool adapted to discharge a well treatment fluid.

[Claim 23] The system of claim 20, further including:

an applicator tool adapted to discharge a well treatment fluid.

[Claim 24] A method of achieving a transient underbalance condition in a wellbore, the method comprising the steps of:

disposing a housing having a sealed surge chamber within a wellbore; and  
detonating a surge charge, disposed in the surge chamber, to penetrate the housing thereby providing fluid communication between the surge chamber and exterior of the housing.

[Claim 25] The method of claim 24, wherein the surge charge does not penetrate the formation or other material exterior of the housing.

[Claim 26] The method of claim 24, wherein the pressure within the sealed surge chamber is less than the pressure exterior of the housing.

[Claim 27] The method of claim 25, wherein the pressure within the sealed surge chamber is less than the pressure exterior of the housing.

[Claim 28] The method of claim 25, wherein the surge charge has a substantially infinite-radius explosive charge radius.

[Claim 29] A method for treating a well, the method comprising the steps of:  
placing a system in a wellbore proximate a formation to be treated, the system comprising:

a housing having a sealed surge chamber;

a surge charge disposed within the sealed surge chamber, wherein the surge charge is adapted to only penetrate the housing, and

a perforating charge;

detonating the perforating charge to create a tunnel in the formation;

detonating the surge charge to penetrate the housing providing fluid communication between the wellbore and the surge chamber.

**[Claim 30]** The method of claim 29, wherein the sealed surge chamber has a lower pressure than the wellbore pressure proximate the housing.

**[Claim 31]** The method of claim 29, further including the step of:  
disposing a chemical treatment fluid in the wellbore before detonating the perforating charge.

**[Claim 32]** The method of claim 30, further including the step of:  
disposing a chemical treatment fluid in the wellbore before detonating the perforating charge.

**[Claim 33]** The method of claim 29, wherein the surge charge has an explosive cavity with a radius relatively larger than the radius of the perforating charge explosive cavity.

**[Claim 34]** The method of claim 30, wherein the surge charge has a substantially infinite-radius explosive charge cavity.

**[Claim 35]** A downhole explosive charge adapted to perforate a surge chamber without damaging objects external of the surge chamber to achieve a transient underbalance condition in a wellbore, the charge comprising:

an explosive having a charge cavity.

**[Claim 36]** The charge of claim 35, wherein the charge cavity has a finite large radius.

**[Claim 37]** The charge of claim 35, wherein the charge cavity has a substantially infinite radius.

**[Claim 38]** The charge of claim 35, wherein the charge cavity has an infinite radius.

**[Claim 39]** The charge of claim 35, wherein the charge cavity is lined with a low-density liner material.

**[Claim 40]** The charge of claim 36, wherein the charge cavity is lined with a low-density liner material.

**[Claim 41]** The charge of claim 37, wherein the charge cavity is lined with a low-density liner material.

**[Claim 42]** The charge of claim 38, wherein the charge cavity is lined with a low-density liner material.